

Fig. 1. FOS preparation by submerged fermentation

5- 8 days old slants of *A. oryzae* CFR 202 / *A. pullulans* CFR 77

One loop full of spores

Medium containing 1 % sucrose and 0.2 % yeast extract at pH ranging from 5-6 and incubated for 24-48 h at temperature ranging from 25-35 °C at about 200-250 rpm to develop inoculum

10-25 % inoculum transferred

Fermentation medium consisting of 10 - 12 % sucrose, 0.7 – 0.9 % yeast extract, 0.02 – 0.04 % $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$, 1 - 3 % NaNO_3 , 0.3 – 0.5 % K_2HPO_4 , 0.8 – 1.0 % KH_2PO_4 , 0.5 – 0.7 % NaCl and 0.9 – 1.2 % NH_4Cl and incubated for 48-120 h at temperature ranging from 25-30 °C

Filtered the culture broth

Pellets discarded

Fructosyl Transferase (FTase)

FTase mixed with 600 g/l sucrose at pH 5.0-5.5 for 18-24 h at 50-55°C

Maltodextrin (upto 15 %)

Tri calcium phosphate (up to 2 %)

FOS syrup



Spray drying of FOS syrup



FOS powder

Steps showing
Preparation of
FOS powder



Fig. 2: FOS preparation by Solid State fermentation

5- 8 days old slants of *A oryzae* CFR 202

One loop full of spores

Medium containing 1 % sucrose and 0.2 % yeast extract at pH ranging from 5-6 and incubated for 24-48 h at temperature ranging from 25-35 °C at about 200-250 rpm to develop inoculum

10-25 % inoculum transferred

Fermentation medium consisting of 10 - 12 g of rice bran moistened with 10 – 12 ml water and incubated for 48-120 h at temperature ranging from 25-30 °C

Extraction of the moldy bran with water

Filtration

Fructosyl Transferase (FTase)

FTase mixed with 600 g/l sucrose at pH 5.0-5.5 for 18-24 h at 50-55°C

Maltodextrin (upto 15 %)

Tri calcium phosphate (up to 2 %)

FOS syrup

Spray drying of FOS syrup



FOS powder



Figure 3. FOS preparation with improved sweetness

5- 8 days old slants of *A. oryzae* CFR 202

One loop full of spores



Medium containing 1 % sucrose and 0.2 % yeast extract at pH ranging from 5-6 and incubated for 24-48 h at temperature ranging from 25-35 °C at about 200-250 rpm to develop inoculum 10-25 % inoculum transferred



Fermentation medium consisting of 10 - 12 % sucrose, 0.7 – 0.9 % yeast extract, 0.02 – 0.04 % $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$, 1 - 3 % NaNO_3 , 0.3 – 0.5 % K_2HPO_4 , 0.8 – 1.0 % KH_2PO_4 , 0.5 – 0.7 % NaCl

and 0.9 – 1.2 % NH_4Cl and incubated for 48-120 h at temperature ranging from 25-30 °C



Stevia powder (10g)

Water (1L)



Boil for 20 minutes



Extract (1%)



Filtered the culture broth



Pellets discarded

Fructosyl Transferase (FTase)



FTase mixed with 600 g/l sucrose prepared in stevia extract at pH 5-6 for 18-24 h at 50-55 °C

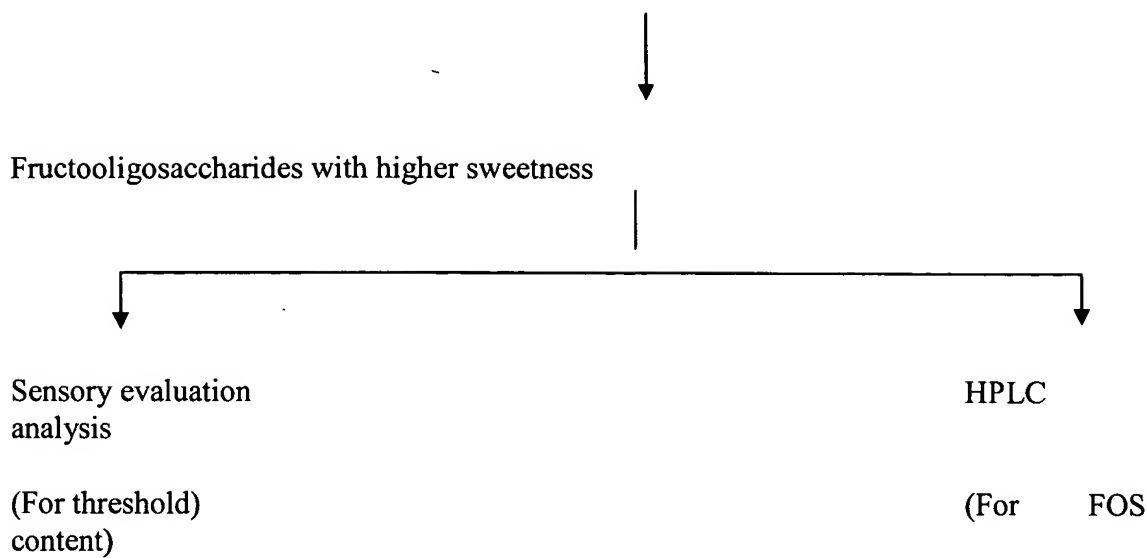
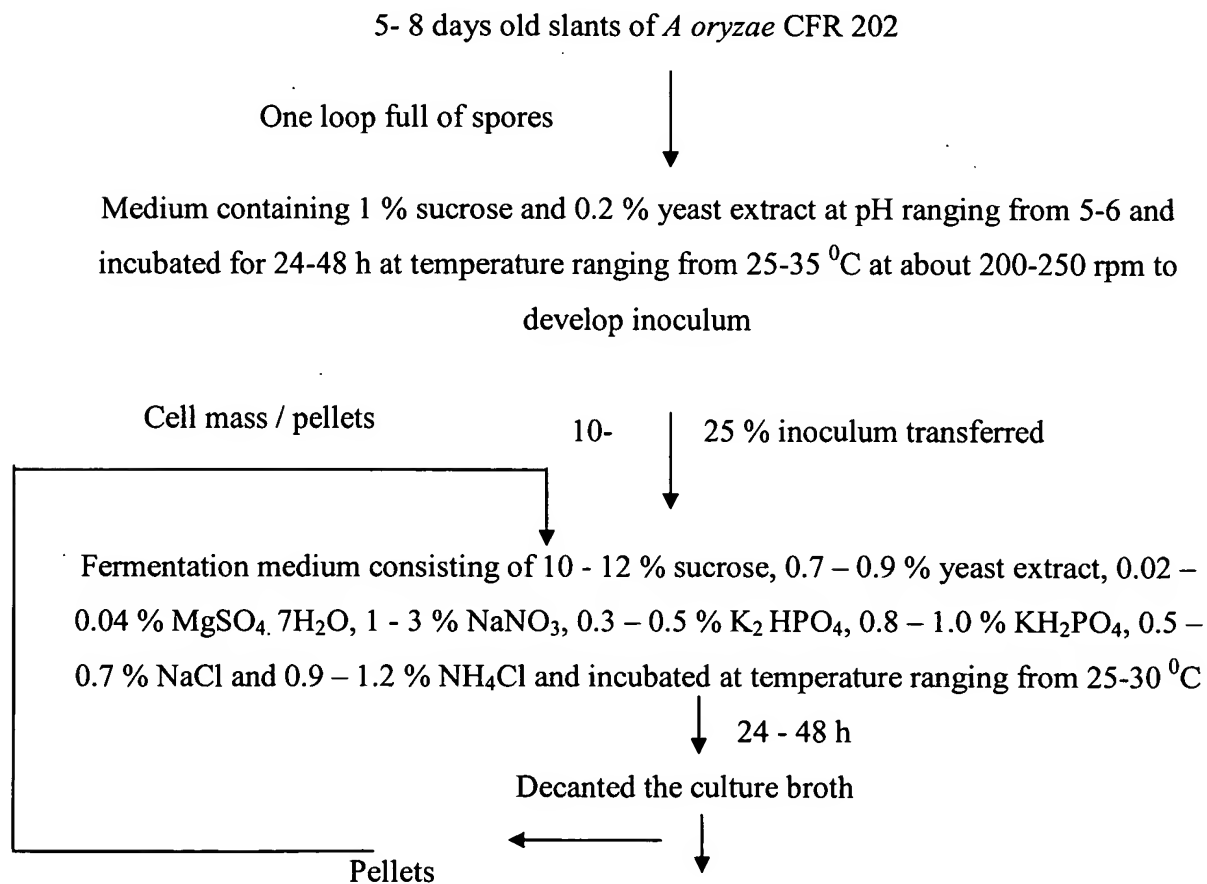


Figure 4: FOS preparation by recycling culture of *Aspergillus* species



Fructosyl Transferase (FTase)



FTase mixed with 600 g/l sucrose at pH 5.0-5.5 for 18-24 h at 50-55°C



FOS